556,668

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
9 December 2004 (09.12.2004)

PCT

(10) International Publication Number
WO 2004/106117 A1

(51) International Patent Classification[7]: B60R 19/18, F16F 7/12

(21) International Application Number: PCT/CA2004/000823

(22) International Filing Date: 2 June 2004 (02.06.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/475,275 3 June 2003 (03.06.2003) US

(71) Applicant *(for all designated States except US)*: **DECOMA INTERNATIONAL INC.** [CA/CA]; 50 Casmir Court, Concord, Ontario L4K 4J5 (CA).

(71) Applicant and
(72) Inventor *(for all designated States except US)*: **BATOR, Mary, Ann** [US/US]; 27634 Wellington Road, Farmington Hills, MI 48334 (US).

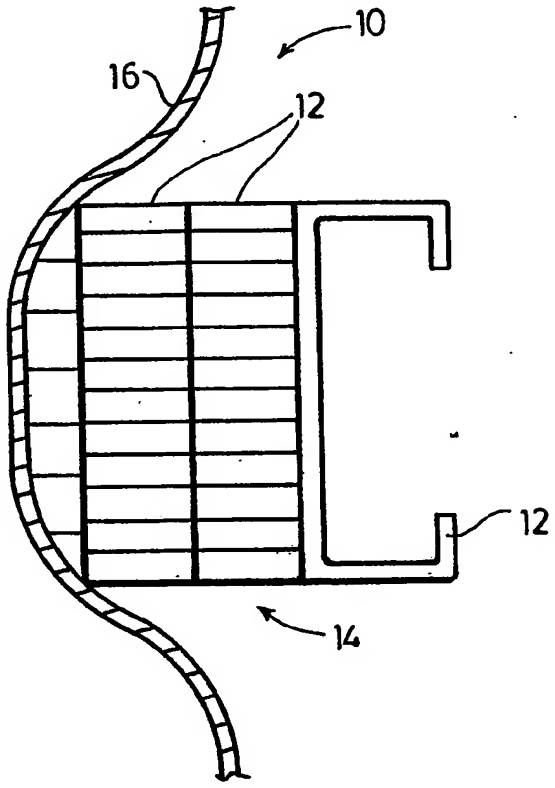
(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: **HUOTARI, Keijo, J.** [CA/US]; 12434 Orchardwood, Fenton, MI 48430 (US). **HENDERSON, Jack, V.** [US/US]; 6118 Dunmore Dr., West Bloomfield, MI 48322 (US). **ZEMMER, Richard**; 869 W. Sutton Road, Metamora, MI 48455 (US).

(74) Agents: **IMAI, Jeffrey, T.** et al.; Magna International Inc., 337 Magna Drive, Aurora, Ontario L4G 7K1 (CA).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

[Continued on next page]

(54) Title: BUMPER ENERGY ABSORBER AND METHOD OF FABRICATING AND ASSEMBLING THE SAME



(57) Abstract: A bumper beam energy absorbing system (10) is disclosed for absorbing impact energy exerted on an automotive vehicle. The energy absorbing system (10) includes a rigid, structural impact beam (12), a decorative fascia (16),and an energy absorber (14) sandwiched between the impact beam (12) and fascia (16). The impact beam (12) is adapted to attach the energy absorber to the vehicle while the fascia (16) decoratively covers and conceals the energy absorber (14). The energy absorber (14) is comprised of layers of cell panels (20). Each cell panel (20) is extruded into an open cell network in which interconnected closed loop cell walls define a plurality of open cells, thereby creating the network. The cross-section of the cells (22, 22') in one cell panel may differ to adjust the amount of energy absorbed by a particular section of the panel. Likewise, the overall open cell network may vary between the layers, thereby adjusting the amount of energy absorbed by each particular layer.

WO 2004/106117 A1

(84) **Designated States** *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report*

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.